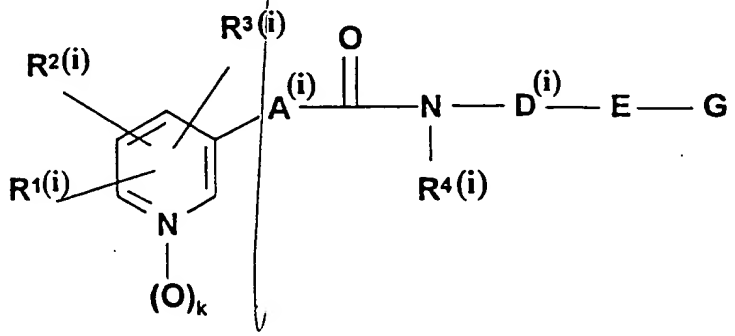
CLAIMS

1. Use of compounds with vitamin PP activity as cytoprotective agents for prevention, reduction, or elimination of less severe or acute side effects and/or neutralization of the effect of cancertostatic agents or immunosuppressive agents, especially compounds from the series of substituted pyridylalkane, pyridylalkene and pyridylalkine acid amides, in diagnosis or cytostatic or immunosuppressive chemotherapy, anti-proliferative and metastasis formation-preventative or prophylactic therapy or the control of immune reactions such as autoimmune diseases, optionally in combination with radiation therapy.

2. Use according to claim 1, characterized in that nicotinic acid or nicotinamide and/or their pharmocologically and pharmaceutically acceptable ester or amide derivatives, anionic or quarternary salts or addition salts, N-oxides, optionally their analogous thioxo derivatives, optionally their isomers as well as their prodrugs, are used as a compound or compounds with vitamin PP activity, and pyridylalkane, pyridylalkene and pyridylalkine acid amides of the following general formula (I)



(I)

are used as cancerostatic agents and/or tumor inhibitors or immuosuppressive agents, wherein the residues $R^{1(i)}$, $R^{2(i)}$, $R^{3(i)}$ and $R^{4(i)}$ are selected from halogen, hydroxy, trifluoromethyl, cyano, aliphatic hydrocarbon residues, optionally substituted with functional groups, optionally interrupted by one or more hetero-atoms, or aromatic hydrocarbon residues, whereby, $R^{1(i)}$ and $R^{2(i)}$ can form a bridge together,

k is the number 0 or 1, and

$A^{(i)}$ and $D^{(i)}$ signify an aliphatic, saturated or unsaturated, optionally substituted, hydrocarbon residue which can optionally be interrupted by a hetero-atom or a functional group,

E is a bond or a heterocycle with either one or two N-atoms or an N-atom plus an O-atom, whereby their linkage with $D^{(i)}$ and G either occurs over a nitrogen atom and a carbon atom or optionally over both ring nitrogen atoms;

G is selected from
hydrogen or an aliphatic or araliphatic residue, an unsaturated or aromatic, mono- or polycyclic carbocyclic residue,
a saturated, unsaturated or aromatic, mono- or polycyclic heterocyclic residue,
which can be bound directly or over a functional group, derived from C-, N-, O-, S- or P-atoms, for example, an ether, thioether, acyl, sulfonyl, phosphinoyl group, or an amide, carbamate, ureide, sulfonamide or phosphinamide group, or a mono- or polycyclic imide bound over the imide nitrogen atom, as well as their

stereoisomers including cis/trans-isomers, E/Z-isomers, enantiomers, as well as

diastereomers and other isomers of the above defined compounds, in optionally pure form or as their racemic and/or non-racemic mixtures; as well as the

tautomers of the above defined compounds, in the optional case that G represents a heterocyclic aromatic ring or one which contains simultaneous substitution by free hydroxy, mercapto or amino groups; and the corresponding pharmacologically acceptable acid addition salts of the above defined compounds.

3. Use according to claim 1 or 2, characterized in that the pyridylalkane, pyridylalkene and pyridylalkines acid amides of the general formula (I) concern the following compounds:

N-[2-(1-benzylpiperidin-4-yl)-ethyl]-3-(pyridin-3-yl)-propionamide;
N-{2-[1-(2-phenylethyl)-piperidin-4-yl]-ethyl}-3-(pyridin-3-yl)-propionamide;
N-{2-[1-(4-phenylbutyl)-piperidin-4-yl]-ethyl}-3-(pyridin-3-yl)-propionamide;
N-{2-[1-(4-hydroxy-4-phenylbutyl)-piperidin-4-yl]-ethyl}-3-(pyridin-3-yl)-propionamide;
N-[2-(1-diphenylmethylpiperidin-4-yl)-ethyl]-3-(pyridin-3-yl)-propionamide,
N-[3-(1-diphenylmethylpiperidin-4-yl)-propyl]-3-(pyridin-3-yl)-propionamide;
N-[4-(1-diphenylmethylpiperidin-4-yl)-butyl]-3-(pyridin-3-yl)-propionamide;

N-[4-(1-benzylpiperidin-4-yl)-butyl]-3-(pyridin-3-yl)-acrylamide;
N-{4-[1-(2-phenylethyl)-piperidin-4-yl]-butyl}-3-(pyridin-3-yl)-acrylamide;
N-{4-[1-(4-biphenylylmethyl)-piperidin-4-yl]-butyl}-3-(pyridin-3-yl)-acrylamide;
N-{4-[1-(1-naphthylmethyl)-piperidin-4-yl]-butyl}-3-(pyridin-3-yl)-acrylamide;
N-{4-[1-(9-anthrylmethyl)-piperidin-4-yl]-butyl}-3-(pyridin-3-yl)-acrylamide;
N-{4-[1-(cyclohexylphenylmethyl)-piperidin-4-yl]-butyl}-3-(pyridin-3-yl)-acrylamide;
N-{4-[1-(10,11-dihydro-5H-dibenzo[a,d]cyclohepten-5-yl)-piperidin-4-yl]-butyl}-3-(pyridin-3-yl)-acrylamide;
N-[2-(1-diphenylmethylpiperidin-4-yl)-ethyl]-3-(pyridin-3-yl)-acrylamide;
N-[3-(1-diphenylmethylpiperidin-4-yl)-propyl]-3-(pyridin-3-yl)-acrylamide;
N-[5-(1-diphenylmethylpiperidin-4-yl)-pentyl]-3-(pyridin-3-yl)-acrylamide;
N-[6-(1-diphenylmethylpiperidin-4-yl)-hexyl]-3-(pyridin-3-yl)-acrylamide;
N-[4-(1-diphenylmethylpiperidin-4-yl)-butyl]-5-(pyridin-3-yl)-2,4-pentadienic acid amide;
N-(4-{1-[bis-(4-fluorophenyl)-methyl]-piperidin-4-yl}-butyl)-3-(pyridin-3-yl)-acrylamide;
N-(4-{1-[bis-(2-chlorophenyl)-methyl]-piperidin-4-yl}-butyl)-3-(pyridin-3-yl)-acrylamide;
N-[4-(1-diphenylmethylpiperidin-4-yl)-butyl]-3-(2-fluoro-pyridin-3-yl)-acrylamide;
N-[4-(1-diphenylmethylpiperidin-4-yl)-butyl]-3-(6-fluoro-pyridin-3-yl)-acrylamide;
N-[4-(1-diphenylmethylpiperidin-4-yl)-butyl]-3-(pyridin-3-yl)-acrylamide;

N-[4-(1-diphenylmethylpiperidin-4-yl)-butyl]-3-(pyridin-3-yl)-acrylamide•dihydrochloride or
N-[4-(1-diphenylmethylpiperidin-4-yl)-butyl]-3-(pyridin-3-yl)-acrylamide•methanesulfonate;

N-[4-(1-acetyl-piperidin-4-yl)-butyl]-3-(pyridin-3-yl)-propionamide;
N-[4-(1-benzoyl-piperidin-4-yl)-butyl]-3-(pyridin-3-yl)-propionamide;
N-[4-(1-diphenylacetyl-piperidin-4-yl)-butyl]-3-(pyridin-3-yl)-propionamide;
N-{4-[1-(9-oxo-9H-fluoroen-4-carbonyl)-piperidin-4-yl]-butyl}-3-(pyridin-3-yl)-propionamide;
N-[4-(1-methylsulfonyl-piperidin-4-yl)-butyl]-3-(pyridin-3-yl)-propionamide;
N-{4-[1-(2-naphthyl-sulfonyl)-piperidin-4-yl]-butyl}-3-(pyridin-3-yl)-propionamide;
N-[4-(1-benzyl-piperidin-4-yl)-butyl]-3-(pyridin-3-yl)-propionamide;
N-(4-{1-[bis-(2-chlorophenyl)-methyl]-piperidin-4-yl}-butyl)-3-(pyridin-3-yl)-propionamide;
N-{4-[1-(phenylpyridin-3-yl-methyl)-piperidin-4-yl]-butyl}-3-(pyridin-3-yl)-propionamide;
N-{4-[1-(9H-fluoroen-9-yl)-piperidin-4-yl]-butyl}-3-(pyridin-3-yl)-propionamide;
N-{4-[1-(6,11-dihydrodibenzo[b,e]oxepin-11-yl)-piperidin-4-yl]-butyl}-3-(pyridin-3-yl)-propionamide;
N-{4-[1-(1-naphthylamino-carbonyl)-piperidin-4-yl]-butyl}-3-(pyridin-3-yl)-propionamide;
N-[4-(1-diphenylamino-carbonyl-piperidin-4-yl)-butyl]-3-(pyridin-3-yl)-propionamide;
N-{4-[1-(10,11-dihydro-dibenzo[b,f]azepin-5-yl-carbonyl)-piperidin-4-yl]-butyl}-3-(pyridin-3-yl)-propionamide;

N-[4-(1-Diphenylphosphinoyl-piperidin-4-yl)-butyl]-3-(pyridin-3-yl)-propionamide;
N-[4-(1-diphenylmethylpiperidin-4-yl)-butyl]-3-(2-fluoro-pyridin-3-yl)-propionamide;
N-[4-(1-diphenylmethylpiperidin-4-yl)-butyl]-3-(5-fluoro-pyridin-3-yl)-propionamide;
N-[4-(1-diphenylmethylpiperidin-4-yl)-butyl]-2-fluoro-3-(pyridin-3-yl)-propionamide;
N-[4-(1-diphenylmethylpiperidin-4-yl)-butyl]-2,2-difluoro-3-(pyridin-3-yl)-propionamide;
N-[5-(1-diphenylmethylpiperidin-4-yl)-pentyl]-3-(pyridin-3-yl)-propionamide;
N-[6-(1-diphenylmethylpiperidin-4-yl)-hexyl]-3-(pyridin-3-yl)-propionamide;
N-[2-(1-diphenylmethylpiperidin-4-yl)-ethyl]-5-(pyridin-3-yl)-pentanoic acid amide;
N-[4-(1-diphenylmethylpiperidin-4-yl)-butyl]-5-(pyridin-3-yl)-pentanoic acid amide;
N-[4-(1-diphenylmethylpiperidin-4-yl)-butyl]-N-hydroxy-3-(pyridin-3-yl)-propionamide;
N-[4-(1-diphenylmethylpiperidin-4-yl)-butyl]-2-hydroxy-3-(pyridin-3-yl)-propionamide;
N-[4-(1-diphenylmethylpiperidin-4-yl)-butyl]-3-hydroxy-3-(pyridin-3-yl)-propionamide and
N-[4-(1-diphenylmethylpiperidin-4-yl)-butyl]-3-(pyridin-3-yl)-propionamide;

N-[4-(1-methylsulfonylpiperidin-4-yl)-butyl]-3-(pyridin-3-yl)-acrylamide;
N-{4-[1-(2-naphthylsulfonyl)-piperidin-4-yl]-butyl}-3-(pyridin-3-yl)-acrylamide;
N-{4-[1-(2-naphthylsulfonyl)-piperidin-4-yl]-butyl}-5-(pyridin-3-yl)-2,4-pentadienic acid amide;

N-{4-[1-(1-naphthylaminocarbonyl)-piperidin-4-yl]-butyl}-3-(pyridin-3-yl)-acrylamide;
N-[4-(1-diphenylaminocarbonylpiperidin-4-yl)-butyl]-3-(pyridin-3-yl)-acrylamide;
N-[4-(1-diphenylaminocarbonyl-piperidin-4-yl)-butyl]-5-(pyridin-3-yl)-2,4-pentadienic acid amide;
N-{4-[1-(10,11-dihydrodibenzo[b,f]azepin-5-yl-carbonyl)-piperidin-4-yl]-butyl}-3-(pyridin-3-yl)-acrylamide;
N-[4-(1-Diphenylphosphinoyl-piperidin-4-yl)-butyl]-3-(pyridin-3-yl)-acrylamide;
N-[4-(1-acetylpiperidin-4-yl)-butyl]-3-(pyridin-3-yl)-acrylamide;
N-[4-(1-diphenylacetylpiperidin-4-yl)-butyl]-3-(pyridin-3-yl)-acrylamide;
N-{4-[1-(3,3-diphenylpropionyl)-piperidin-4-yl]-butyl}-3-(pyridin-3-yl)-acrylamide;
N-[4-(1-benzoylpiperidin-4-yl)-butyl]-3-(pyridin-3-yl)-acrylamide;
N-[4-(1-benzoylpiperidin-4-yl)-butyl]-5-(pyridin-3-yl)-2,4-pentadienic acid amide;
N-{4-[1-(9-oxo-9H-fluoren-4-yl-carbonyl)-piperidin-4-yl]-butyl}-3-(pyridin-3-yl)-acrylamide;
N-{4-[1-(phenylpyridin-3-yl-methyl)-piperidin-4-yl]-butyl}-3-(pyridin-3-yl)-acrylamide;
N-{4-[1-(phenylpyridin-4-yl-methyl)-piperidin-4-yl]-butyl}-3-(pyridin-3-yl)-acrylamide;
N-{4-[1-(6,11-dihydrodibenzo[b,e]oxepin-11-yl)-piperidin-4-yl]-butyl}-3-(pyridin-3-yl)-acrylamide;
N-{4-[1-(6,11-dihydrodibenzo[b,e]thiepin-11-yl)-piperidin-4-yl]-butyl}-3-(pyridin-3-yl)-acrylamide;
N-[7-(1-diphenylmethylpiperidin-4-yl)-heptyl]-3-(pyridin-3-yl)-acrylamide;
N-[8-(1-diphenylmethylpiperidin-4-yl)-octyl]-3-(pyridin-3-yl)-acrylamide;

N-[3-(1-diphenylmethylpiperidin-4-yloxy)-propyl]-3-(pyridin-3-yl)-acrylamide;
N-[3-(1-benzylpiperidin-4-yloxy)-propyl]-3-(pyridin-3-yl)-acrylamide;
N-[2-(1-diphenylmethylpiperidin-4-yl)-ethyl]-5-(pyridin-3-yl)-2,4-pentadienic acid amide;
N-[4-(1-diphenylmethylpiperidin-4-yl)-butyl]-5-(pyridin-3-yl)-2,4-pentadienic acid amide;
N-[5-(1-diphenylmethylpiperidin-4-yl)-pentyl]-5-(pyridin-3-yl)-2,4- pentadienic acid amide; or
N-[6-(1-diphenylmethylpiperidin-4-yl)-hexyl]-5-(pyridin-3-yl)-2,4- pentadienic acid amide;

N-[4-(4-diphenylmethylpiperazin-1-yl)-3-hydroxy-butyl]-3-pyridin-3-yl-acrylamide;
N-[3-(4-diphenylmethylpiperazin-1-yl)-propoxy]-3-pyridin-3-yl-acrylamide;
N-[4-(4-diphenylmethylpiperazin-1-yl)-4-oxo-butyl]-3-pyridin-3-yl-acrylamide;
N-[3-(4-diphenylmethylpiperazin-1-sulfonyl)-propyl]-3-pyridin-3-yl-acrylamide;
N-{2-[2-(4-diphenylmethylpiperazin-1-yl)-ethoxy]-ethyl}-3-pyridin-3-yl-acrylamide;
N-(4-{4-[bis-(4-fluorophenyl)-methyl]-piperazin-1-yl}-but-2-inyl)-3-pyridin-3-yl-acrylamide;
N-{4-[4-(4-carboxyphenyl-phenylmethyl)-piperazin-1-yl]-butyl}-3-pyridin-3-yl-acrylamide;
N-(4-{4-[(4-aminophenyl)-phenylmethyl]-piperazin-1-yl}-butyl)-3-pyridin-3-yl-acrylamide;
N-{4-[4-(9H-fluoroen-9-yl)-piperazin-1-yl]-butyl}-2-(pyridin-3-yloxy)-acetamide;
N-{5-[4-(9H-fluoroen-9-yl)-piperazin-1-yl]-pentyl}-3-pyridin-3-yl-acrylamide;

N-{6-[4-(9H-fluoroen-9-yl)-piperazin-1-yl]-hexyl}-3-pyridin-3-yl-acrylamide;
3-pyridin-3-yl-N-{4-[4-(1,2,3,4-tetrahydronaphthalin-1-yl)-piperazin-1-yl]-butyl}-acrylamide;
3- pyridin-3-yl-N-{4-[4-(5,6,7,8-tetrahydronaphthalin-1-yl)-piperazin-1-yl]-butyl}-acrylamide;
N-{4-[4-(naphthalin-1-yl)-piperazin-1-yl]-butyl}-3-pyridin-3-yl-acrylamide;
N-[4-(4-biphenyl-2-yl-piperazin-1-yl)-butyl]-3-pyridin-3-yl-propionamide;
N-[5-(4-biphenyl-2-yl-piperazin-1-yl)-pentyl]-3-pyridin-3-yl-acrylamide;
N-[6-(4-biphenyl-2-yl-piperazin-1-yl)-hexyl]-3-pyridin-3-yl-acrylamide;
N-[4-(4-biphenyl-2-yl-piperazin-1-ly)-butyl]-2-(pyridin-3-yloxy)-acetamide;
N-[4-(4-biphenyl-2-yl-piperazin-1-yl)-butyl]-5-(pyridin-3-yl)-penta-2,4-dienic acid amide;
N-{4-[4-(10,11-dihydro-5H-dibenzo[a,d]cyclohepten-5-yl)-piperazin-1-yl]-butyl}-3-pyridin-3-yl-propionamide;
N-{5-[4-(10,11-dihydro-5H-dibenzo[a,d]cyclohepten-5-yl)-piperazin-1-yl]-pentyl}-3-pyridin-3-yl-acrylamide;
N-{6-[4-(10,11-dihydro-5H-dibenzo[a,d]cyclohepten-5-yl)-piperazin-1-yl]-hexyl}-3-pyridin-3-yl-acrylamide;
N-{4-[4-(10,11-dihydro-5H-dibenzo[a,d]cyclohepten-5-yl)-piperazin-1-yl]-butyl}-5-(pyridin-3-yl)-penta-2,4-dienic acid amide;
N-{4-[4-(6,11-dihydro-dibenzo[b,e]oxepin-11-yl)-piperazin-1-yl]-butyl-3-pyridin-3-yl-propionamide;
N-{2-[4-(6,11-dihydro-dibenzo[b,e]thiepin-11-yl)-piperazin-1-yl]-ethyl}-3-pyridin-3-yl-acrylamide;
N-[4-(4-diphenylacetylpiperazin-1-yl)-butyl]-3-pyridin-3-yl-acrylamide;

N-[4-(4-benzoylpiperazin-1-yl)-butyl]-3-pyridin-3-yl-acrylamide;
N-{4-[4-(2-aminobenzoyl)-piperazin-1-yl]-butyl}-3-pyridin-3-yl-acrylamide;
N-{4-[4-(4-carboxybenzoyl)-piperazin-1-yl]-butyl}-3-pyridin-3-yl-acrylamide;
N-{4-[4-(biphenyl-2-carbonyl)-piperazin-1-yl]-butyl}-3-pyridin-3-yl-acrylamide;
N-{4-[4-(9-oxo-9H-fluoroen-4-carbonyl)-piperazin-1-yl]-butyl}-3-pyridin-3-yl-acrylamide;
N-{4-[4-(furan-2-carbonyl)-piperazin-1-yl]-butyl}-3-pyridin-3-yl-acrylamide;
N-{4-[4-(naphthalin-1-yl-aminocarbonyl)-piperazin-1-yl]-butyl}-3-pyridin-3-yl-propionamide;
N-{4-[4-(diphenylaminocarbonyl)-piperazin-1-yl]-butyl}-3-pyridin-3-yl-acrylamide;
N-{4-[4-(naphthalin-2-sulfonyl)-piperazin-1-yl]-butyl}-3-pyridin-3-yl-acrylamide;
N-[4-(4-diphenylphosphinonyl-piperazin-1-yl)-butyl]-3-pyridin-3-yl-acrylamide;
N-[4-(4-biphenyl-2-yl-piperazin-1-yl)-butyl]-3-pyridin-3-yl-acrylamide;
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N-{4-[4-(10,11-dihydro-5H-dibenzo[a,d]cyclohepten-5-yl)-piperazin-1-yl]-butyl}-3-pyridin-3-yl-acrylamide;

N-[4-(4-phenylpiperidin-1-yl)-butyl]-3-pyridin-3-yl-acrylamide;
N-{4-[4-(1H-indol-3-yl)-piperidin-1-yl]-butyl}-3-pyridin-3-yl-acrylamide;
N-{4-[4-(2-oxo-2,3-dihydrobenzimidazol-1-yl)-piperidin-1-yl]-butyl}-3-pyridin-3-yl-acrylamide;

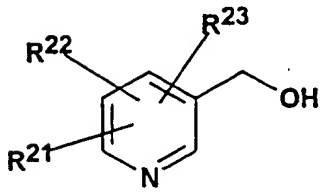
N-[4-(4-benzotriazol-1-yl-piperidin-1-yl)-butyl]-3-pyridin-3-yl-acrylamide;
N-{4-[4-(hydroxy-diphenylmethyl)-piperidin-1-yl]-butyl}-2-(pyridin-3-yloxy)-acetamide;
N-[4-(4,4-diphenylpiperidin-1-yl)-butyl]-3-pyridin-3-yl-acrylamide;
N-{4-[4-(6,11-dihydrodibenzo[b,e]thiepin-11-yliden)-piperidin-1-yl]-butyl}-3-pyridin-3-ylpropionamide•dihydrochloride• semi-isopropanol;
N-{4-[4-(6,11-dihydrodibenzo[b,e]thiepin-11-yliden)-piperidin-1-yl]-butyl}-5-pyridin-3-yl-pentanamide;
N-{4-[4-(4,9-dihydro-thieno[2,3-b]-benzo[e]thiepin-4-yliden)-piperidin-1-yl]-butyl}-3-pyridin-3-yl-propionamide;
N-{4-[4-(4,9-dihydro-thieno[2,3-b]-benzo[e]thiepin-4-yliden)-piperidin-1-yl]-butyl}-3-pyridin-3-yl-acrylamide;
N-[4-(4-diphenylphosphinoyloxypiperidin-1-yl)-butyl]-3-pyridin-3-yl-acrylamide as well as
N-[4-(1,4-dioxa-8-azaspiro[4.5]dec-8-yl)-butyl]-3-pyridin-3-yl-acrylamide;

N-[4-(2,5-dioxo-3,4-diphenyl-2,5-dihydropyrrol-1-yl)-butyl]-3-pyridin-3-yl-acrylamide;
N-[4-(2,6-dioxo-4-phenylpiperidin-1-yl)-butyl]-3-pyridin-3-yl-acrylamide;
N-[4-(1,3-dioxo-4,5,6,7-tetraphenyl-1,3-dihydro-isoindol-2-yl)-butyl]-3-pyridin-3-yl-acrylamide;
N-[4-(3-benzyl-2,4,5-trioxo-imidazolidin-1-yl)-butyl]-3-pyridin-3-yl-acrylamide;
N-[4-(1,3,10-trioxo-1,4,5,6,10,10a-hexahydro-acenaphtho-[1,8a-c]pyrrol-2-yl)-butyl]-3-pyridin-3-yl-acrylamide;
N-[4-(2,5-dioxo-4,4-diphenylimidazolidin-1-yl)-butyl-3-pyridin-3-yl-acrylamide;
N-[4-(2,5-dioxo-3-phenyl-2,5-dihydropyrrol-1-yl)-butyl]-3-pyridin-3-yl-acrylamide;

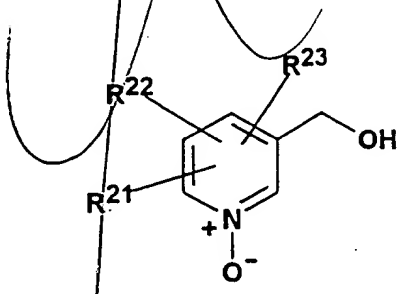
N-[3-(2,5-dioxo-3,4-diphenyl-2,5-dihydro-pyrrol-1-yl)-propyl]-3-pyridin-3-yl-acrylamide;
N-[4-(3-pyridin-3-yl-acroylamino)-butyl]-2,3:5,6-dibenzobicyclo[2.2.2]octan-7,8-dicarboximide;
N-[4-(5-benzyliden-2,4-dioxothiazolidin-3-yl)-butyl]-3-pyridin-3-yl-acrylamide;
N-[4-(4-benzyl-2,6-dioxopiperazin-1-yl)-butyl]-3-pyridin-3-yl-acrylamide;
N-[6-(2,5-dioxo-3,4-diphenyl-2,5-dihydropyrrol-1-yl)-hexyl]-3-pyridin-3-yl-acrylamide;
N-[4-(2,5-dioxo-3,4-diphenyl-2,5-dihydropyrrol-1-yl)-butyl]-3-pyridin-3-yl-propionamide;
N-[4-(1,3-dioxo-1,3-dihydro-isoindol-2-yl)-butyl]-3-pyridin-3-yl-acrylamide;
N-[4-(1,3-dioxo-1H,3H-benzo[de]isoquinolin-2-yl)-butyl]-3-(1-oxidopyridin-3-yl)-acrylamide;
N-[6-(1,3-dioxo-1H,3H-benzo[de]isoquinolin-2-yl)-hexyl]-3-pyridin-3-yl-acrylamide;
N-[2-(1,3-dioxo-1H,3H-benzo[de]isoquinolin-2-yl)-ethyl]-3-pyridin-3-yl-acrylamide as well as
N-[4-(1,3-dioxo-1H,3H-benzo[de]isoquinolin-2-yl)-butyl]-3-pyridin-3-yl-acrylamide;
N-[8,8-bis-(4-fluorophenyl)-octyl]-3-pyridin-3-yl-acrylamide•hydrochloride;
N-[6-(3,3-diphenylureido)-hexyl]-3-pyridin-3-yl-acrylamide;
N-[4-(1-phenyl-1,2,4,5-tetrahydrobenzo[d]azepin-3-yl)-butyl]-3-pyridin-3-yl-acrylamide;
N-(8,8-diphenyloctyl)-3-pyridin-3-yl-acrylamide;
N-(8-hydroxy-8,8-diphenyloctyl)-3-pyridin-3-yl-acrylamide;
N-[4-(3,3-diphenylureido)-butyl]-3-pyridin-3-yl-acrylamide;
N-[4-(1H,3H-benzo[de]isoquinolin-2-yl)-butyl]-3-pyridin-3-yl-acrylamide;
N-[6-(10,11-dihydro-dibenzo[b,f]azepin-5-yl-carbonyl-amino)-hexyl]-3-pyridin-3-yl-acrylamide;

3-pyridin-3-yl-N-[6-(tosylamino)-hexyl]-acrylamide;
N-[4-(1,1-dioxo-1-thia-2-aza-acenaphthylen-2-yl)-butyl]-3-pyridin-3-yl-acrylamide;
N-(6-hydroxy-6,6-diphenylhexyl)-3-pyridin-3-yl-acrylamide;
N-(6,6-diphenyl-hex-5-enyl)-3-pyridin-3-yl-acrylamide;
N-[4-(4,5-diphenylimidazol-1-yl)-butyl]-3-pyridin-3-yl-acrylamide;
N-[4-(trans-2-Phenylcyclopropylcarbonylamino)-butyl]-3-pyridin-3-yl-acrylamide;
N-(5-hydroxy-5,5-diphenyl-pentyl)-3-pyridin-3-yl-acrylamide;
N-(7-phenylheptyl)-3-pyridin-3-yl-acrylamide;
N-(4-diphenylacetylamino-butyl)-3-pyridin-3-yl-acrylamide;
N-[4-(benzhydrylamino)-butyl]-3-pyridin-3-yl-acrylamide as well as
N-(4-{[2-(benzhydrylmethylamino)-ethyl]-methylamino}-butyl)-3-pyridin-3-yl-acrylamide.

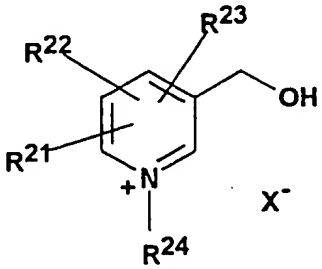
4. Use according to one of claims 1 to 3, characterized in that compounds of the general formulas (II) to (IIb)



(II)

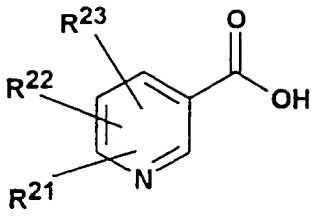


(IIa)

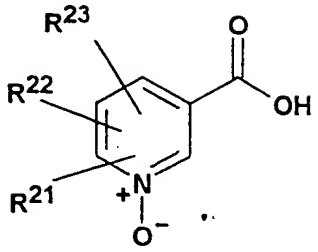


(IIb)

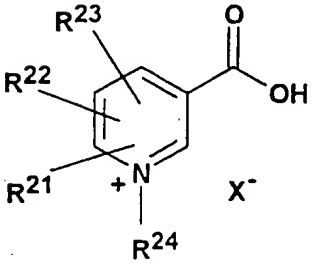
as well as compounds of formulas (III) to (IIIc)



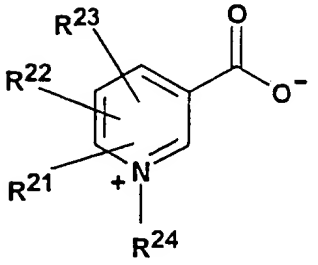
(III)



(IIIa)



(IIIb)



(IIIc)

wherein

R^{21} is selected from hydrogen, halogen, cyano, alkyl, especially C_1-C_6-alkyl, trifluoromethyl, hydroxyalkyl, especially C_1-C_6-hydroxyalkyl, hydroxy, alkoxy, alkanoyloxy, alkylthio or aminoalkyl, especially C_1-C_6-alkoxy, C_1-C_7-alkanoyloxy, C_1-C_6-alkylthio or C_1-C_6-aminoalkyl, amino, alkylamino or dialkylamino, especially C_1-C_6-alkylamino or C_2-C_{12}-dialkylamino, formyl, alkoxycarbonyl, especially C_2-C_7-alkoxycarbonyl, aminocarbonyl, alkylaminocarbonyl or dialkylaminocarbonyl, especially C_2-C_7-alkylaminocarbonyl or C_3-C_{13}-dialkylamino-carbonyl and carboxy;

R^{22} is selected from

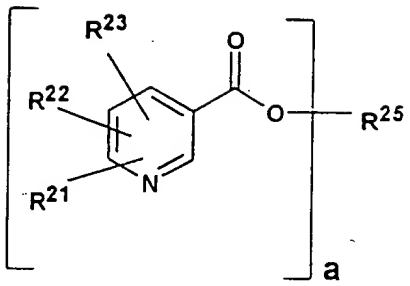
hydrogen, halogen, Alkyl, especially C_1-C_6-alkyl, trifluoromethyl, hydroxyalkyl, especially C_1-C_6-hydroxyalkyl, hydroxy, alkoxy, alkanoyloxy or aminoalkyl, especially C_1-C_6-alkoxy, C_1-C_7-alkanoyloxy or C_1-C_6-aminoalkyl, amino, alkoxycarbonyl, especially C_2-C_7-alkoxycarbonyl, aminocarbonyl and carboxy;

R^{23} is selected from
hydrogen, alkyl, especially C_1-C_6-alkyl, and hydroxyalkyl, especially C_1-C_6-hydroxyalkyl;

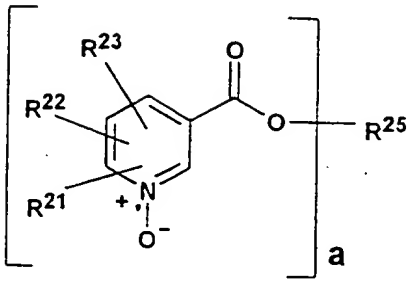
R^{24} is selected from
alkyl, alkenyl, hydroxyalkyl, alkoxyalkyl, especially C_1-C_6-alkyl, C_3-C_6-alkenyl, C_2-C_6-hydroxyalkyl or C_2-C_6-alkoxyalkyl and aralkyl, especially benzyl;

X- signifies a monovalent, non-basic anion selected from fluoride, chloride, bromide, iodide, hydrogen sulfate, methanesulfonate, trifluoromethanesulfonate, tosylate, tetrafluoroborate, dihydrogenphosphate and acetate, can be used as compounds with vitamin pp activity, whereby, optionally,

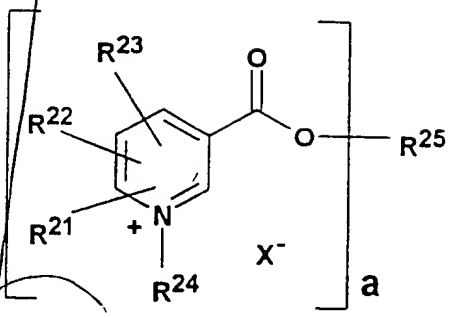
ester compounds of formula (III) in form of the following general formulas (IV) to (IVb), their N-oxides (IVa), their analogous thioxo derivatives or quarternary salts (IVb) with mono- to hexavalent alcohols or amino alcohols,



(IV)



(IVa)



(IVb)

can also be used as compounds with vitamin pp activity, wherein

R^{21} to R^{24} and X^- have the above meanings,

a can be the number 1 to 6,

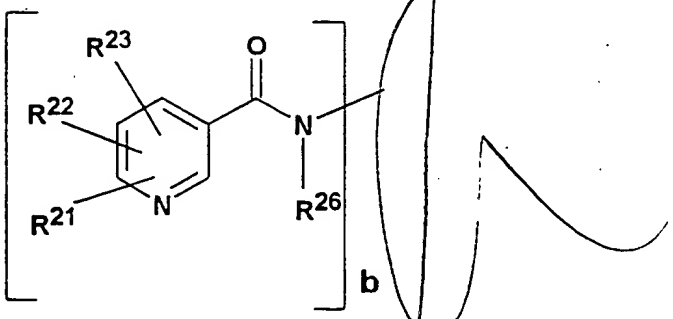
and the underlying alcohol $R^{25}(OH)_a$ is selected from

monovalent, straight-chained or branched, primary, secondary or tertiary C_1-C_{10}-alkanols or ω-dialkylamino alkanols or benzyl alcohol,

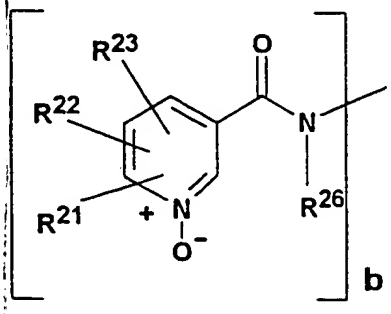
divalent, straight-chained or branched C_2-C_{10}-glycolene,

mono- or divalent C_5-C_7-cycloalkanols and/or-diolene, cycloalkylmethanols or saturated heterocyclomethanols such as tetrahydrofurylmethanol,
tri-, tetra-, penta- or hexavalent, straight-chained or branched or cyclic alcohols with 3 to 10 carbon atoms such as glycerin, 2,2-bis(hydroxymethyl)-octanol-1, erythritol, pentaerythritol, arabitol, xylitol, sorbitol, mannitol, isosorbitol, tetra(hydroxymethyl)cyclohexanol or inositol,

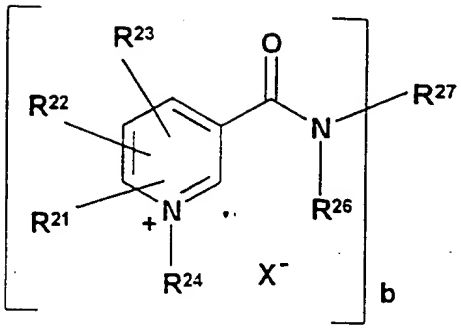
whereby the amides of the following formulas to (V) to (Vb), derived from the respective free acids of the above general formulas (III) to (IIIc), their N-oxides or quarternary salts with mono- or divalent amines or hydroxyalkylamines can also be optionally further used:



(V)



(Va)



(Vb)

wherein

R^{21} to R^{24} and X^- have the above meanings,

b can represent the number 1 or 2 and, in the case that b = 1, the residues

R^{26} and R^{27} are selected independently from each other from

hydrogen, alkyl, hydroxyalkyl, alkoxyalkyl, aminoalkyl or dialkylaminoalkyl, especially C_1-C_6-alkyl, C_1-C_6-hydroxyalkyl, C_3-C_6-alkoxyalkyl, C_1-C_6-aminoalkyl or C_4-C_{12}-dialkylaminoalkyl and carboxymethyl, and

in the case that b = 2, the residue

R^{26} has the above meanings, the residue

R^{27} is selected from

alkylene, especially C_2-C_{10}-alkylene or C_5-C_{10}-alkylene, wherein a methylene group is isosterically replaced by O, NH or N-alkyl;

and/or, depending on the molecular binding properties of the compounds according to the above formulas (II) to (Vb), their

acid addition salts, anionic salts, their N-oxides, especially according to the formulas (IIa) and (IIIa), and quarternary pyridinium salts, especially according to the formulas (IIb), (IIIb) and (IIIc), optionally their respective analogous thioxo derivatives as well or.

a precursor compound (prodrug) are used which can be metabolized in vivo to a compound with vitamin PP - activity as well as other pharmacologically acceptable esters or other derivatives with pharmacokinetically useful vitamin PP-activity not defined by the above substitutents.

5. Use according to one of claims 1 to 4, characterized in that nicotinic acid and/or nicotinamide are used as a vitamin PP active compounds.

6. Use according to one of claims 1 to 4, characterized in that tryptophan is used as a precursor compound (prodrug) which is metabloized in vivo to a compound with vitamin PP activity.

7. Use according to one of claims 1 to 7, characterized in that in addition to the cancerostatic agent, especially a compound characterized in claim 2 or 3, a further cancerostatic or immunosuppressive compound different from the tumor inhibitor according to the general formula (I) is used.

8. Use according to one of claims 1 to 7, characterized in that, the respective dosage units of compounds of the general formula (I) are in the range of 5, 10, 20, 25, 30, 50, 75, 100, 200, 250, 300, 400, 500, 750 mg to 1000 mg for reduction, elimination or prevention of less severe side-effects, and 100, 250, 300, 500, 750 or 1000 to 10,000 mg for

elimination of acute side-effects and/or for neutralization of the cancerostatic effect.

9. Pharmaceutical composition, characterized in that it contains one or more compounds of the general formula (I) according to claim 2 and one or more compounds of the general formulas (II) to (Vb) according to claim 4 aside from physiologically acceptable carriers and toxicologically safe adjuvants.

10. Pharmaceutical composition according to claim 9, characterized in that in addition to the cancerostatic agent, especially a compound characterized in claim 2 or 3, it further contains a cancerostatic or immunosuppressive compound different from the tumor inhibitor according to the general formula (I).

11. Pharmaceutical composition according to claims 9 or 10, characterized in that it contains the respective dosage units of the compounds of the general formula (I) in the range of 5, 10, 20, 25, 30, 50, 100, 200, 250, 300, 500, 750, 1000 mg to 1000 mg in cancerostatic chemotherapy for reduction, elimination or prevention of less severe side-effects and respectively contains 100, 200, 250, 300, 500, 750 or 1000 to 10 000 mg for elimination of acute side-effects and/or neutralization of cancerostatic effect.

12. Pharmaceutical composition according to one of claims 9 to 11, characterized in that in addition to the cancerostatic agent it further contains one or more active ingredients customary for the indications given in the preceding claims in combination with one or more of the compounds of the general formulas (II) to (Vb).

13. Pharmaceutical composition according to one of the claims 9 to 12, characterized in that it is present in a solid, peroral administrable form as a tablet, capsule, coated tablet, optionally as sustained action and/or gastric fluid-resistant preparation or as a liquid medicinal form, for example, as a respective peroral administrable solution, suspension, effervescent tablet, in the form of tabs or sachets, optionally in sustained action form and/or with delayed and/or accelerated or controlled release of the active ingredient.

14. Pharmaceutical composition according to one of the claims 9 to 12, characterized in that the active ingredients combined with each other are contained separate from each other and/or in separate dosage units in the pharmaceutical package (kit-of-parts).

15. Pharmaceutical composition according to one of the claims 9 to 12 or 14, characterized in that it is present in the form of a suitable injection or infusion preparation together with suitable pharmaceutically acceptable carriers and adjuvants, optionally in sustained action form and/or as a parenteral depot medicinal form or implant or is used in the form of a concentrate, powder or lyophilisate and the parenteral dilution agent is optionally manufactured in the packaging separately therefrom, such that the mixing of the components contained therein with a common parenterally applicable dilution agent is possible immediately before use.

16. Pharmaceutical composition according to one of the claims 9 to 12, characterized in that it is present in the form of an inhalation therapeutic agent, for example, in the form of a spray together with suitable pharmaceutically acceptable propellants, carriers and adjuvants.

17. Pharmaceutical composition according to one of the claims 9 to 12, characterized in that it is present in the form of a transdermal therapeutic system for systemic treatment.

18. Pharmaceutical composition according to one of the claims 9 to 12, characterized in that it is present in the form of a gastrointestinal therapeutic system (GITS) for systemic treatment.

19. Pharmaceutical composition according to one of the claims 9 to 12, characterized in that it is present in the form of a salve, suspension, emulsion, a balm or plaster or in the form of an externally applicable solution.

20. Pharmaceutical composition according to claim 16 for administration by means of a controlled dosage aerosol or in the form of a dry powder dosage formulation.

21. Pharmaceutical composition according to one of the claims 9 to 12, characterized in that it is present in the form of a rectal, genital, or transurethral administrable emulsions, a solution, a liposomal solution, an implant, suppository or a capsule.

22. Pharmaceutical composition according to one of the claims 9 to 12, characterized in that it is present in the form of a composition capable of being applied nasally, otologically or ophthalmologically.

23. Pharmaceutical composition according to one of the claims 9 to 12, characterized in that it is present in the form of a buccally applicable form.

24. Pharmaceutical composition according to one of the claims 9 to 23, characterized in that a dosage unit for

individual administration contains 0.001 to 1000, 2000, 3000, 4000 or 5000 mg, preferably 0.01 - 100 mg, in a preferred manner 1 - 10 mg, especially 1, 2, 5, 10, 20, 25, 30, 50, 75, 100, 200, 300, 400, 500, 600, or 800 mg cancerostatic agent, especially a tumor inhibitor of the general formula (I).

25. Pharmaceutical composition according to claim 16, characterized in that the pharmaceutically acceptable carrier and/or diluent is a propellant aerosol.

26. Pharmaceutical composition according to claim 16, 20 or 25, characterized in that the propellant aerosol is tetrafluoroethane and/or heptafluoropropane and/or propane, butane, or dimethyl ether or mixtures thereof.

27. Pharmaceutical composition according to one of the claims 16, 20, 25 or 26, characterized in that the propellant aerosol contains surface active adjuvants.

28. Pharmaceutical composition according to one of the claims 16 or 20, characterized in that it contains glucose and/or lactose as a dry powder dosage formulation.

29. Pharmaceutical composition according to one of the claims 9 to 28, characterized in that it has an amount of tryptophan as a prodrug.

30. Pharmaceutical composition according to claim 29, characterized in that it contains the 30-, 40-, 50-, or 60-fold amount of the amount given in claim 11 of compound with vitamin PP activity.

31. Pharmaceutical composition according to claim 30, characterized in that it contains dosage units of 500, 1000, 2000, 3000, 5000, 10,000 or 50,000 mg tryptophan.